UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

AUG - 5 2016

Mr. William Boozer
Director
United States Navy, Inactive Ships Office (SEA-21I)
Naval Sea Systems Command
1333 Isaac Hull Avenue
Washington Navy Yard, DC 20376

Re: Request for informal consultation under section 7(a)(2) of the Endangered Species Act *and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response* regarding United States Navy Naval Sea Systems Command Inactive Ships Office proposed contracted towing and dismantling of inactive U.S. Navy vessel ex-*Independence*.

Refer to NMFS No: FPR-2016-9169

Dear Mr. Boozer:

On April 26, 2016, the National Marine Fisheries Service (NMFS) received the U.S. Navy's request for concurrence that the towing of inactive U.S. Navy vessel ex-*Independence* from her existing berthing location in Bremerton, Washington to a dismantling facility in Brownsville, Texas by contracted vessels is not likely to adversely affect species listed as threatened or endangered or critical habitat designated under the Endangered Species Act (ESA). This response was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

The U.S. Navy has determined that this action is not likely to adversely affect any species listed under the ESA within NMFS jurisdiction or affect designated critical habitat for those species.

NMFS also reviewed the effects of the proposed action on essential fish habitat (EFH), pursuant to section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1855(b)), and have concluded that it would adversely affect the EFH of Pacific Coast Groundfish, Pacific Coast Salmon, and Coastal Pelagic Species. Therefore, we have included the results of that review in this document.

Discussions between NMFS and the U.S. Navy regarding the inactive ship tow program started in 2012. Since that time, NMFS has conducted four informal ESA section 7 consultations prior to this current consultation and has discussed a programmatic approach to section 7 consultation on their inactive ship program. During each of these consultations and discussions, NMFS has expressed concern regarding the transport of potentially invasive species that may be attached to

decommissioned ship hulls. Of particular concern for NMFS has been the towing of vessels from marine ports and estuaries to other marine ports. During the technical assistance phase of these informal consultations, NMFS recommended the Navy make efforts to minimize the risk associated with the potential transfer of invasive species through underwater cleaning of vessel components or dry docking inactive vessels prior to each vessel being towed.

Between late April and early July 2016, staff from NMFS and the Navy discussed an approach to consultation on the inactive ship tow program, as well as the single towing event of the ex-*Independence*. The Navy stated that contracting for the towing of the ex-*Independence* would need to occur prior to the end of fiscal year 2016 in order for the funding currently allocated to the action not to be lost. NMFS stated that we would not able to complete a formal programmatic consultation on the inactive ship tow program (which could include towing the ex-*Independence*) prior to the end of fiscal year 2016 because the Navy had not provided all information needed for NMFS to complete the consultation (i.e., a flow chart describing the decision-making process with regards to when they will clean Navy inactive ship hulls prior to towing).

Following the discussions between NMFS and the U.S. Navy concerning the transport of potentially invasive species, the U.S. Navy and NMFS confirmed with the Washington State Department of Ecology and the Environmental Protection Agency (EPA) that Washington State in-water cleaning regulations do not apply to the U.S. Navy, such that cleaning of ships prior to departure in Washington State could occur.

On June 16, 2016, NMFS received a flow chart from the Navy depicting their decision-making process with regards to when they will clean Navy inactive ship hulls. On June 20, 2016, NMFS and the Navy met to discuss further minimization measures regarding the towing of the ex-*Independence* and agreed to consider the towing of the ex-*Independence* as an independent action. Upon NMFS's recommendation, the Navy also agreed to make efforts to minimize the risk associated with the potential transfer of invasive species from Bremerton to Brownsville by cleaning the hull and other underwater components of the ex-*Independence* prior to its departure from Bremerton.

On July 7, 2016, NMFS received a Biological Evaluation from the U.S. Navy specific for the towing of the ex-*Independence* from Bremerton, Washington to Brownsville, Texas.

NMFS anticipates that future ship towing events will be considered in a programmatic consultation to be completed once NMFS receives further detail on the circumstances under which the Navy will make efforts to minimize the potential transfer of invasive species.

Below, we summarize the proposed action, including mitigation and minimization measures. We then describe the action area, the potential stressors created by the proposed action, and identify the ESA-listed species that may be affected by the proposed action. We also describe the potential effects of the proposed action on ESA-listed species and designated critical habitats.

Description of the Proposed Action

The Naval Sea Systems Command Inactive Ships Office proposes to contract for the towing of the ex-*Independence* from Puget Sound Naval Shipyard in Bremerton, Washington to the Port of Brownsville, Texas for dismantling (Figure 1). The tow route includes international waters, the exclusive economic zone and territorial seas of Chile and Argentina, and U.S. exclusive economic zone and territorial waters.

The ex-*Independence* is approximately 1,070 feet long with a 270 foot wide flight deck. She is a Forrestal-class aircraft carrier of the U.S. Navy which was decommissioned in 1998. The ex-*Independence* is non-operational (no propeller rotation or water intakes/discharges); thus, several tug boats will be used to tow the vessel. During transit, sea conditions will dictate tow speed, but the tug and tow would normally travel at speeds of between 6 and 8 knots in the open ocean. The tow cable will be up to 2,000 feet long, consisting of 2.25-inch diameter wire rope. While underway, the cable may dip approximately 100 feet below the surface; when transiting in shallower water (e.g., river channels) the cable may be shortened to avoid snags. The tug will maintain approximately 75 tons (68 metric tons) of strain on the cable. Towing procedures will follow the U.S. Navy Towing Manual (Naval Sea Systems Command 2006).

Dismantling Process:

The dismantling of the ex-*Independence* would take place in a private-sector facility. The procedure may vary depending on which recycling facility gets the contract. Dismantling can follow one of two methods: afloat (moored in the water) or dry-dock. During the afloat method, the ship is broken apart piece by piece in a ramped marine slip while simultaneously being winched out of the water as the ship gets lighter. During this process, booms are used around the ship as a precaution to help contain any debris. During dry-dock, the ship is docked in either a floating dry dock or a deflooded dock. With either method, any hazardous materials aboard or within the ship (e.g., asbestos, oils, fuel) would be removed before dismantling begins.

After removal from the ship, scrap metals, including steel, aluminum, copper, copper nickel alloy, and lesser amounts of other metals, are sorted by grade and composition and sold to re-melting firms or to scrap metal facilities. Non-recyclable material, including hazardous materials and other wastes, are disposed of according to applicable Federal, state, and local laws and regulations. The Navy will work closely with the EPA and the Occupational Safety and Health Administration (OSHA) to ensure that domestic ship recycling facilities have the capability of dismantling ships in a manner that protects the environment and worker safety and health with regards to Federal, state, and local environmental and occupational safety and health laws and regulations. The dismantling of the ex-*Independence* would be overseen by Navy civilian personnel to ensure contract compliance.

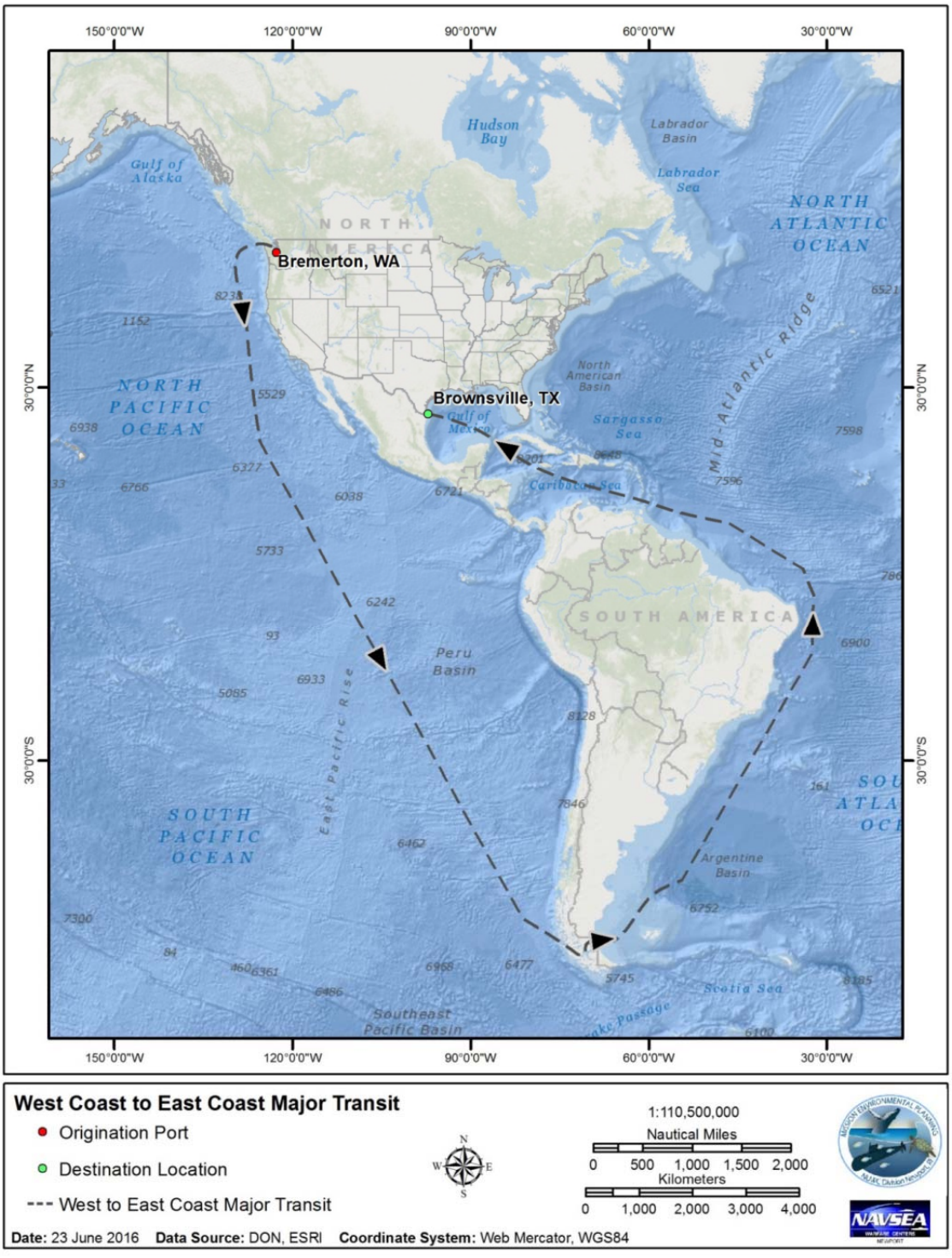

Figure 1. Estimated ship tow transit route of the ex-*Independence* originating in Bremerton, Washington and being towed to Brownsville, Texas.

Mitigation and Minimization Measures:

The U.S. Navy and NMFS identified the stressors of the proposed action of striking an ESA-listed animal by either the tugs towing the ex-*Independence* or the ex-*Independence* in tow and

the risks associated with transporting potential invasive species to other ocean areas or the port of Brownsville, Texas. The U.S. Navy proposed the following mitigation and minimization measures to reduce the risk of these stressors.

To minimize the probability of ship strike of ESA-listed marine mammals and sea turtles, the U.S. Navy will ensure that the contracted tow company will employ the following measures:

- The crew members of the tug boats towing the ex-*Independence* will serve as lookouts to avoid potential collisions with ESA-listed marine species. The Navy will strongly encourage the towing operators to undertake the Navy's Marine Species Awareness Training.
- Whenever marine mammals or sea turtles are sighted, the crew members of the tug boats will increase vigilance and take reasonable and prudent actions to avoid collisions or activities that might result in close interactions between the vessels and animals.
- Any interactions between contracted tug vessels and ESA-listed species will be logged by contracted tug operators and reported to NMFS Office of Protected Resources.

To minimize the likelihood for transfer of biofouling species from Bremerton, Washington to Brownsville, Texas, prior to departure from Bremerton, Washington, the Navy will do the following:

- Conduct biological surveys to document the extent of biofouling on all underwater components of the vessel.
- Remove organisms and/or biofouling communities attached to the vessel using diver operated equipment such as machines with rotating brushes and high-pressure water jets. Due to the size of the vessel and dependent on the extent and type of biofouling community present on the vessel, the cleaning operation could take a month or more to complete.
- Conduct a biological survey following in-water cleaning and prior to departure from Bremerton to note which biofouling species are still be present on the hull of the vessel.
- Tow the ex-*Independence* as soon as possible after the cleaning process is complete to minimize the attachment of additional biofouling organisms in Bremerton, Washington.

Action Area

Under the ESA, the "action area" means all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area for the proposed action includes the ports of Bremerton, Washington and Brownsville, Texas, along with the waters through which the ex-*Independence* would transit. Specifically, we consider the action area to be the straight line within the path of moving tugs and towed vessels for the purpose of analyzing the effects of vessel strike, invasive species, entanglement, and ship noise. For the purposes of the analysis of effects of noise from ship breaking and biofouling species establishment at the Port of Brownsville, the action area also

includes the immediate area of similar habitat surrounding the Port of Brownsville. For the purposes of the analysis of the effects of ship hull cleaning, the action area includes the Puget Sound Naval Shipyard in Bremerton, Washington.

The port in Bremerton, Washington is a saltwater port located on the north side of the Sinclair Inlet on the Kitsap Peninsula and is located in the Naval Base Kitsap, which is on the west side of the Puget Sound Naval Shipyard. The Shipyard has nine piers with individual berths ranging from 700 to 1,400 feet and depths ranging from 30 to 44 feet. Sinclair Inlet is an estuary in the middle of Puget Sound with water temperatures ranging from 48 to 59 degrees Fahrenheit (°F) based on annual averages (https://www.nodc.noaa.gov/dsdt/cwtg/npac_tmap.html) and salinity ranging from 24 to 37 parts per thousand (ppt) (Albertson et al. 1992).

The Port of Brownsville is a saltwater port located 3 miles from Mexico and 2 miles from Brownsville, the southernmost city in Texas. The inland-most 4.5 miles of the Brownsville shipping channel, which includes the ship breaking facility, are heavily industrialized and provide adequate hard substrate upon which biofouling organisms could become established. Based on an analysis of aerial imagery, the seaward 13 miles of the Brownsville channel is primarily soft bottom substrate and sandy channel edges susceptible to erosion and likely unsuitable for biofouling species establishment. Additionally, the approximately 17-mile long Brownsville shipping channel has little connectivity with other open marine habitats until it reaches the Laguna Madre and the Gulf of Mexico at its mouth. This long, narrow stretch, approximately two-thirds of which does not appear to contain substantial quantities of suitable biofouling habitat, will limit the natural spread of biofouling species from the Port of Brownsville into the Gulf of Mexico by tidal action and water currents. The water temperature in the vicinity of Brownsville ranges from 48 to 87 °F based on annual water temperature averages within coastal Texas (https://www.nodc.noaa.gov/dsdt/cwtg/npac_tmap.html), with areas surrounding Brownsville reportedly having salinity ranges of 33 to 37 ppt (http://science1.nasa.gov/earth-science/oceanography/physical-ocean/salinity/).

ENDANGERED SPECIES ACT

Affected Species and Critical Habitat

The proposed action has the potential to affect ESA-listed species that occur in the Pacific, Atlantic, and Southern Oceans, Gulf of Mexico, and Caribbean Sea. Only those species with current ranges or designated critical habitat that may be affected by the proposed action are included (Table 1). Some ESA-listed species in Table 1 may have designated critical habitat that is not listed in the table because it is not within the action area.

Table 1. ESA-listed species and designated critical habitat that may be affected by U.S. Navy inactive ship towing and dismantling activities.

Species	ESA Status [1]	Critical Habitat	Navy Determination
Marine Mammals – Cetaceans			
Blue Whale (*Balaenoptera musculus*)	E – 35 FR 18319	-- --	NLAA[2]
Fin Whale (*Balaenoptera physalus*)	E – 35 FR 18319	-- --	NLAA
Humpback Whale (*Megaptera novaeangliae*)	E – 35 FR 18319	-- --	NLAA
North Pacific right whale (*Eubalaena japonica*)	E – 73 FR 12024	-- --	NLAA
Southern right whale (*Eubalaena australis*)	E – 35 FR 8491	-- --	NLAA
Sei Whale (*Balaenoptera borealis*)	E – 35 FR 18319	-- --	NLAA
Sperm Whale (*Physeter macrocephalus*)	E – 35 FR 18319	-- --	NLAA
Killer whale (*Orcinus orca*) - Southern resident DPS [3]	E – 70 FR 69903	71 FR 69054	NLAA
Sea Turtles			
Green Turtle (*Chelonia mydas*) - East Pacific DPS - North Atlantic DPS - South Atlantic DPS	81 FR 20057	-- --	NLAA
Hawksbill Turtle (*Eretmochelys imbricata*)	E – 35 FR 8491	-- --	NLAA
Leatherback Turtle (*Dermochelys coriacea*)	E – 35 FR 8491	77 FR 4170	NLAA
Loggerhead Turtle (*Caretta caretta*) - Northwest Atlantic Ocean DPS - South Atlantic Ocean DPS - South Pacific Ocean DPS	T – 76 FR 58868 T – 76 FR 58868 E – 76 FR 58868	 79 FR 39856 (*Sargassum* habitat only) -- -- -- --	NLAA NLAA NLAA
Olive Ridley Turtle (*Lepidochelys olivacea*)	T – 43 FR 32800	-- --	NLAA
Kemp's ridley sea turtle (*Lepidochelys kempii*)	E – 35 FR 18319	-- --	NLAA
Fishes			
Chinook salmon (*Oncorhynchus tshawytscha*) - Puget Sound ESU [4]	T – 64 FR 14308	70 FR 52630	NLAA
Chum salmon (*Oncorhynchus keta*) - Hood Canal summer-run ESU	T – 64 FR 14507	70 FR 52739	NLAA
Eulachon (*Thaleichthys pacificus*) - Southern DPS	T – 75 FR 13012	-- --	NLAA
Green sturgeon (*Acipenser medirostris*) - Southern DPS	T – 71 FR 17757	74 FR 52300	NLAA
Canary rockfish (*Sebastes pinniger*)	T – 75 FR 22276	79 FR 68041	NLAA
Yelloweye rockfish (*Sebastes ruberrimus*)	T – 75 FR 22276	79 FR 68041	NLAA

[1] E = endangered, T = threatened, P = proposed
[2] Not likely to adversely affect
[3] Distinct population segment
[4] Evolutionarily significant unit

Species	ESA Status [1]	Critical Habitat	Navy Determination
Bocaccio (*Sebastes paucispinus*)	E – 75 FR 22276	79 FR 68041	NLAA
Steelhead Trout (*Oncorhynchus mykiss*) - Puget Sound DPS	T – 72 FR 26722	81 FR 9251	NLAA
Invertebrates			
Staghorn coral (*Acropora cervicornis)*	T – 71 FR 26852	-- --	NLAA
Elkhorn coral (*Acropora palmata)*	T – 71 FR 26852	-- --	NLAA
Dendrogyra cylindrus	T – 79 FR 53851	-- --	NLAA
Mycetophylia ferox	T – 79 FR 53851	-- --	NLAA
Orbicella annularis	T – 79 FR 53851	-- --	NLAA
Orbicella faveolata	T – 79 FR 53851	-- --	NLAA
Orbicella franksi	T – 79 FR 53851	-- --	NLAA

Effects of the Action

Under the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard that leads to a determination of not likely to adversely affect listed species or critical habitat is that all of the effects of the proposed action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

Hull Cleaning

The potential for water quality impairment resulting from the uncontained discharge of underwater cleaning effluent is widely recognized. In-water hull cleaning has the potential to release slime, marine growth, and anti-fouling particles (Forbes 1996), as well as temporarily increase turbidity and decrease water clarity.

The most recent painting report for ex-*Independence*, dated December 17, 1986, stated that the body of the ship was blasted 100 percent to near white metal and her underwater body was coated with both anti-corrosive paints and anti-fouling paints. Based on ship records, the two anti-fouling paints used on ex-*Independence* in 1985 to 1986 contained cuprous oxide as the active anti-fouling ingredient. Copper toxicity to marine organisms is considered to be the antifouling mechanism for cuprous oxide-based paints (Howell and Behrends 2006).

The U.S. Navy's Biological Evaluation (Naval Undersea Warfare Center Division; Mission Environmental Planning Program Environmental Division 2016) stated that in the thirty years since the ex-*Independence* was last painted, the copper would have been depleted from its

original levels in the paint. This is supported by Valkirs et al. (1994), which found that low copper release rates from anti-fouling paint was likely the result of the age of the paints. This was consistent with the hulls being heavily fouled as the copper release rate was not high enough to prevent biofouling. Naval Ocean Systems Center (1981) evaluated water column copper concentrations in the vicinity of hull cleaning operations on San Diego Bay. It was found that during hull cleaning operations, water column copper concentrations rapidly decreased with distance from the vessel, reaching ambient levels within 50 to 100 meters of the vessel. Further, residence time of the dissolved copper in the vicinity of the cleaning operation was short; ambient levels were reached within one to three hours, dependent on the tidal cycle. It was found that much of the copper released during the hull cleaning operation was in particulate form, and quickly incorporated into bottom sediments. Naval Ocean Systems Center (1981) also observed slight increases in dissolved and particulate concentrations of lead and zinc in the immediate vicinity of the hull-cleaning operations, but the concentrations were not considered environmentally significant. Finally, biochemical oxygen demand, a measure of the degree of pollution, increased slightly in some samples taken in the vicinity of cleaning operations, but decreased rapidly to ambient concentrations both with distance from the cleaning and after cessation of the cleaning activity (Naval Ocean Systems Center 1981).

Any biofouling (e.g., algal growth, shellfish) removed from the vessel during in-water hull cleaning would be expected to settle quickly to the seafloor. Some biofouling would be expected to reattach to bottom substrates, whereas some may not survive. Given the size of the ex-*Independence*, in-water cleaning could take sixty to ninety days, so biofouling would be released slowly over time, allowing it to disperse within the environment. The decomposition of any biofouling organisms that do not survive would also occur over time and would not be expected to result in anything more than minor, temporary changes in water quality as a result of tidal flushing. A report from the United States Geological Survey stated that large volumes of water and material suspended across the entire water column move in and out of the inlet once or twice per day and that the tidal range in sea level (up to four meters) is about one quarter of the water depth of the inlet (Noble et al. 2013).

The information presented above suggests potential impacts from in-water hull cleaning on water quality would be localized and temporary (i.e., likely lasting only the duration of the hull cleaning process or a few hours afterwards). Therefore, the only ESA-listed species that could be exposed to decreased water quality from hull cleaning would be those occurring in the immediate vicinity of the vessel during the hull cleaning operation.

Sea turtles and whales are only rarely observed in Sinclair Inlet (Naval Undersea Warfare Center Division; Mission Environmental Planning Program Environmental Division 2016), and would likely avoid the industrialized portions of the Inlet, such as the Puget Sound Naval Shipyard. Based on the rare occurrence of sea turtles and whales in Sinclair Inlet and the localized and temporary nature of decreased water quality from hull cleaning, the potential for decreased water

quality to effect ESA-listed whales and sea turtles is discountable and therefore not likely to adversely affect ESA-listed whales and sea turtles.

ESA-listed fish occur in Sinclair Inlet and could be near the Puget Sound Naval Shipyard. Prolonged exposure to high concentrations of copper can impact fish in various ways, ranging from impacting sensory organs to causing mortality (Woody 2007). However, a large percentage of the copper from anti-fouling paint on the ex-*Independence* has likely already been released into the environment in the thirty years since it was painted (e.g., Valkirs et al. 1994). This suggests a minimal amount of harmful copper would be released into Sinclair Inlet during hull cleaning. Further, all of the ESA-listed salmonid species in Puget Sound feed in the water column and are not likely to ingest or be exposed to copper that has settled onto the seafloor and mixed with the benthic environment. Given the small timeframe in which copper would be suspended in the water column (minutes to hours) after hull cleaning is completed, it is unlikely that an ESA-listed salmonid would consume or be exposed to copper for prolonged periods of time as a result of the proposed action. Puget Sound/Georgia Basin rockfish rely on the benthos more than ESA-listed salmonids and therefore, may be more exposed to elevated levels of contaminated sediments as a result of hull cleaning. However, available information indicates that current environmental conditions within Sinclair Inlet are highly degraded, particularly in areas within and adjacent to the Puget Sound Naval Shipyard. This is evidenced by the EPA designating the shipyard a Superfund site in 1993, at least partially due to contaminated sediments at the site. We would not expect the limited amount of copper released during hull cleaning to result in a detectable increase in the amount of metals in the sediment in the Puget Sound Naval Shipyard. Therefore, the temporary and localized decreases in water quality and the likely undetectable increases in sediment contamination from the Navy's proposed action are expected to have insignificant effects on ESA-listed fish species and are not likely to adversely affect ESA-listed fish species. However, for the programmatic opinion, NMFS intends to conduct a thorough analysis of impacts to determine whether the risk is discountable or insignificant with cleaning of multiple ships' hulls.

While the Puget Sound Naval Shipyard at Naval Base Kitsap was excluded from critical habitat designation for Puget Sound/Georgia Basin rockfish, Puget Sound distinct population segment (DPS) steelhead, Puget Sound Chinook salmon, and Southern Resident DPS of killer whale areas adjacent to the Shipyard are within designated critical habitat for these species. Most slime, marine growth, and anti-fouling particles that would be released during hull cleaning would be expected to settle on the substrate in the Shipyard, but small amounts could drift into these areas. Drift of this material would likely be at undetectable levels (particularly considering the highly degraded environment of Sinclair Inlet). Therefore, hull cleaning of the ex-*Independence* is expected to have insignificant effects on designated critical habitat adjacent to the Puget Sound Naval Shipyard.

As documented above, we do not expect underwater hull cleaning from this specific action to result in adverse effects to ESA-listed species or designated critical habitat. However, some temporary water quality and substrate impacts would be expected. To further minimize these effects, we encourage the Navy to implement the Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Conservation Recommendations issued by NMFS West Coast Region that are included in this document.

In-water hull cleaning will also introduce noise into the aquatic environment. There is no published data on the in-water ambient noise levels in the Bremerton area. However, given that the port is considered an industrial area, ambient noise levels are expected to be quite high. We also do not have information on sound levels emitted from underwater hull cleaning equipment. However, because the equipment will be operated by divers underwater (i.e., operated at levels that would not harm human hearing), we would not expect that sound levels would be high enough to harm any ESA-listed species that could occur in proximity to the vessel cleaning operation. Additionally, ship hull cleaning likely occurs on a regular basis in the Puget Sound Naval Shipyard, suggesting that any ESA-listed species in proximity to the hull cleaning operation would be well accustomed to noise from hull cleaning. The potential effect of exposure to noise from in-water hull cleaning is considered insignificant, and therefore is not likely to adversely affect ESA-listed species. However, for the programmatic opinion, NMFS intends to conduct further analysis of impacts to determine whether the risk is discountable or insignificant with transit of multiple ships.

Vessel Noise

Noise from contracted tug boats and the towed Navy ships may be detectable to ESA-listed marine mammals, sea turtles, and fish, although the density of species in the open ocean is so low that they are unlikely to be encountered. Near-shore species are more likely to be encountered near origination ports. However, the tug boats and tow vessel would not purposefully approach marine organisms, especially mammals that are thought to be more sensitive to noise. Further, these areas are already heavily trafficked by vessels, so the towing of one Navy vessel is not expected to substantially increase noise levels above background conditions. Furthermore, some marine species may be more likely respond to the sight of a vessel rather than the sound of a vessel, although both may influence the animal's reactions (Hazel et al. 2007). Any response elicited from ESA-listed marine mammals, sea turtles, or fish due to vessel noise is expected to be in the form of behavioral avoidance or interruption in behavior and of short duration. We believe any behavioral response of ESA-listed species to vessel noise will be of limited duration and magnitude such that it would not involve fitness consequences from the disruption of breeding, feeding, communication or sheltering. Therefore, the effects of vessel noise on ESA-listed species are insignificant and not likely to adversely affect ESA-listed species.

Vessel Strike and Entanglement

The Inactive Ships Office's Biological Evaluation for the proposed action concluded that the proposed action may affect ESA-listed marine mammals, sea turtles, and fish due to the potential for ship strike. The limited maneuverability of the tug and towed vessels during transit reduces the ability to avoid animals sighted in close proximity to the vessel. However, based upon the slow speed of the tug and tow (6 to 8 knots), the short amount of time that they would be transiting habitats where the most susceptible species (large whales and sea turtles) would most likely be encountered, and the distribution in the water column (as opposed to animals on the surface) of some ESA-listed species, Naval Sea Systems Command concluded that this action is not likely to adversely affect ESA-listed marine mammals, sea turtles, and fish.

Vessel collisions are a known source of mortality in marine mammals (Au et al. 2000), and can be a significant factor affecting some large whale populations (Laist et al. 2001). Likewise, vessel collisions are known to contribute to the anthropogenic mortality of sea turtles (Lutcavage et al. 1997) and sturgeon (Brown and Murphy 2010). Laist et al. (2001) reported that the majority of lethal or severe injuries among whales struck by ships involved vessels traveling at 14 knots or faster. Silber et al. (2010) reported that hydrodynamic modeling experiments showed a linear relationship between vessel speed and the accelerations experienced by vessel-struck whales, and concluded that limits on vessel speed may increase response time for a whale attempting to maneuver away from a vessel. Due to the limited duration of this action (one transit), the slow speed of the towing operation (6 to 8 knots), and the ability of marine mammals to avoid collisions with vessels traveling at these slow speeds, we concluded that the likelihood of vessels associated with this project striking ESA-listed marine mammals is discountable and therefore not likely to adversely affect ESA-listed marine mammals.

Large vessels that transit through shipping channels typically draft close to the bottom of the channel, which increases the likelihood of interactions with bottom-dwelling fish. While leaving the Port of Bremerton, the ex-*Independence* may navigate through potential green sturgeon habitat. However, the temporary deflection of green sturgeon swimming patterns associated with infrequent vessel movements from this action at slow speeds are not expected to result in an increased likelihood of injury due to the significant disruption of breeding, feeding, or sheltering; therefore, any potential effects from avoidance behavior are considered insignificant and not likely to adversely affect green sturgeon.

Sea turtles, in the rare event they are encountered by a towed vessel, are expected to exhibit avoidance behavior; thus, sea turtle strikes are not expected and are considered insignificant given the slow tow speed. In experiments on green sea turtles' responses to oncoming boats, greater vessel speed increased the probability that turtles would fail to flee from the approaching vessel, leaving the turtle more vulnerable to collision (Hazel et al. 2007). Specifically, sea turtles fled frequently with a slow vessel speed of 4 km per hour (2.2 knots), infrequently in encounters with a moderate vessel speed of 11 km per hour (5.9 knots), and rarely in encounters with a fast

vessel speed of 19 km per hour (10.3 knots) (Hazel et al. 2007). The ship and tug boats will be traveling at slow to moderate speeds, thus minimizing the chance of striking a sea turtle. The deflection of sea turtle swimming patterns associated with infrequent vessel movements are not expected to result in an increased likelihood of injury due to the significant disruption of breeding, feeding, or sheltering; therefore, any potential effects from avoidance behavior are considered insignificant and not likely to adversely affect ESA-listed sea turtles.

In summary, given the low speed and limited duration of the towing operation (one transit) and the expected density of ESA-listed species along the tow routes, the likelihood of a towing operation encountering and striking an ESA-listed species is so low as to be discountable. Even in the event ESA-listed species encounter a slow-moving vessel, any behavioral avoidance is not expected to rise to the level of take. Therefore, NMFS concurs with the Navy that vessel strikes from the proposed ship towing as described in this letter are expected to be insignificant or discountable and are not likely to adversely affect the ESA-listed species analyzed in the Biological Evaluation.

We also evaluated the potential for ESA-listed species to become entangled in the tow cable. However, due to the tension that will be maintained during the towing operation, the low speed and infrequency of transit for the towing operation, and the expected density of ESA-listed species along the tow route, we consider the likelihood of ESA-listed species encountering the tow cable and then becoming entangled in it to be discountable. Therefore, encountering and entangling in the tow cable is not likely to adversely affect ESA-listed species or critical habitat.

Shipbreaking

If not contained and disposed of properly during the shipbreaking process, hazardous materials (e.g., polychlorinated biphenyls [PCBs], petroleum products, asbestos, etc.) commonly found in ships have the potential to affect listed species and critical habitats.

Ship dismantling companies that are awarded contracts to tow and dismantle inactive ships are responsible for all work associated with the removal and proper disposal of hazardous materials. The Navy Inactive Ships Office complies with EPA and OSHA regulations to ensure that domestic ship recycling facilities are able to dismantle ships in an environmentally sound manner. These companies must comply with all applicable federal, state, and local environmental laws and regulations during the processing, use, or disposal of any material under an awarded contract. Applicable laws include, but are not limited to, the Clean Water Act, Resource Conservation and Recovery Act, and the Toxic Substances Control Act. Shipbreaking companies must submit an Environmental Compliance Plan as part of the bid process. Bidders must demonstrate how the shipbreaking facility will ensure safe and environmentally-sound management of all hazardous materials and wastes removed from a ship recycled at the facility, including information for asbestos, PCBs, fuels and oils, bilge/ballast water, heavy metals, paints and coatings, waste water/sludge, ozone depleting substances and other potentially hazardous materials. In addition, bidders must certify and/or verify that the dismantling facility has

developed, implemented, and maintains a Spill Prevention, Control and Countermeasures Plan, and a Stormwater Pollution Prevention Plan. The bidder must also reveal any Notices of Violations, fines or proposed fines, convictions or citations associated with environmental compliance, and whether the bidder has been the subject of any judicial or administrative proceeding related to the violation of any applicable law related to environmental compliance.

Based on the requirements for environmental compliance related to the shipbreaking process described above, we have determined that the potential risks to ESA-listed species and critical habitats associated with contaminant or hazardous material discharge from the shipbreaking process are so low as to be discountable and are not likely to adversely affect ESA-listed species.

Noise from shipbreaking activities would likely be detectable to ESA-listed species if they were in close proximity to the ship breaking facility in Brownsville. However, we do not expect any ESA-listed species to be present in the industrialized portion of the Port of Brownsville where these facilities are located due to the number of vessels, amount of noise, and possible reduced water quality in the immediate vicinity. Further, it is unlikely that shipbreaking activities associated with the proposed action will significantly increase underwater noise levels above the baseline in the Port of Brownsville. Therefore, based on the absence of ESA-listed species and baseline levels of underwater sound in the port, we determined that the potential risks to ESA-listed species and critical habitat associated with underwater noise from shipbreaking are so low as to be discountable and ESA-listed species are not likely to be adversely affected by this action.

Invasive Species Transfer and Establishment

Aquatic invasive species represent a persistent and increasing problem throughout the world's oceans. Ocean-going vessels have the potential to affect ESA-listed species and critical habitats through the introduction of invasive species. The ecosystems into which these invasive organisms are introduced often lack the conditions that limit range expansion in their natural habitats (e.g., predators, pests, or diseases). This factor, accompanied by characteristics such as high reproductive rates, the ability to utilize a variety of resources, and wide tolerances to a range of environmental conditions, facilitate invasive species spread following introduction, potentially resulting in serious impacts to listed species and critical habitats which may lack the evolutionary adaptations necessary to cope with these invasive species. Consequences of invasion to ESA-listed species and critical habitats may include predation of native species, competition for food or space, and the introduction of harmful pathogens and parasites.

It is probable that several biofouling organisms that could be transported from origination ports are already present at destination ports given the historical and ongoing movement of ships between these ports; however, it is also possible that not all of those species would already be present. Despite centuries of ship traffic from common ports entering Vancouver and Halifax, Canada, Sylvester et al. (2011) found significant differences between hull and harbor biofouling communities, suggesting the introduction of new species was still a risk. While the Navy's

efforts to remove the biofouling community prior to transport to Brownsville is expected to significantly reduce the abundance of biofouling organisms on the ex-*Independence*, it is likely that not all biofouling organisms will be removed and additional organisms could attach during transport (Davidson et al. 2008).

Llansó and Sillett (2008) summarized biofouling of obsolete vessels originating on the West Coast of the U.S. in Suisan Bay, California. The vessels surveyed were part of the U.S. Maritime Administration's non-retention vessel disposal program and had been residing in Suisan Bay for approximately ten years prior to transport to Brownsville, Texas. The authors reported an extensive fouling community dominated by barnacles, bryozoans, isopod crustaceans, and amphipods in the pre-cleaning surveys. The most surprising result of the study was the high number of species observed upon arrival at the destination port that were not observed in the origination port, suggesting that a large number of species attached while in transit (Llansó and Sillett 2008). They found that species settlement and attachment while in transit is enhanced with larger amounts of biofouling because of the three dimensional structure of the initial fouling community. The authors suggested that allowing obsolete vessels to leave their origination port without hull cleaning likely increases the risk of species transfers and introductions at destination ports. Davidson et al. (2008) also evaluated the potential for species transfers via obsolete ship hulls. The authors noted that invasion risk is increased by ships with high-density and high-diversity biofouling communities as well as by repeated species transfers. The authors suggested that obsolete vessels that have been sitting in anchorage for long periods of time and are towed at slow speeds when moved (such as the ex-*Independence*) are particularly strong vectors for species transfer because of their extensive biofouling community. The authors recommended preventing all high-density species transfers (Davidson et al. 2008) such as those that would occur due to the transport of an uncleaned, obsolete vessel.

The Navy's ship hull cleaning efforts are expected to significantly reduce the abundance of biofouling organisms that could be transported from Bremerton to Brownsville. While not all biofouling organisms will likely be removed, the risk of successful species transfer from Bremerton to Brownsville is significantly reduced because of the relatively low-density biofouling community that will be present following cleaning efforts (Davidson et al. 2008). Additionally, as evidenced by Llansó and Sillett (2008), this reduction in biofouling organism abundance would reduce the potential for additional species to attach while in transport, further reducing the potential for species transfer to result from the proposed action. Finally, this consultation considers the risk associated with a single towing event of the ex-*Independence* from Bremerton to Brownsville. As noted by Davidson et al. (2008), repeated species transfers may increase the risk of species transfer. NMFS intends to conduct a thorough evaluation of the risk associated with repeated towing events (and potentially repeated species transfers) during our programmatic biological opinion on the Navy's inactive ship towing program.

Despite the Navy's efforts to minimize the abundance of the biofouling community, some organisms from Bremerton will likely remain on the hull of the vessel when it leaves Bremerton. Because of this, we also evaluated the potential impacts of a biofouling species from Puget Sound being transported along the tow route and then introduced in the port of Brownsville. This analysis, by taxa, is presented below. Davidson et al. (2008) suggested that evaluating the risk of species transfer on a species-by-species level is daunting and we do not have enough available information to do so. We typically do not know which taxa will be present on a ship's hull, their probability of survivorship, or the likelihood of establishment at a destination port. Additionally Davidson et al. (2008) suggested that these variables will likely vary substantially with time (e.g., seasonal differences in species presence and density). Therefore, they recommend treating the hull fouling vector at a biological community level, as opposed to a species-by-species level. This methodology is similar to the current regulations for ballast water, with management efforts aimed at reducing organism abundance, regardless of taxonomic identity (Davidson et al. 2008).

The introduction of invasive species via hull biofouling would primarily be a concern to ESA-listed species and designated critical habitats in the locations of the destination ports. Thus, we focused our analysis on potential effects to ESA-listed species that are potentially near the Port of Brownsville, Texas. NMFS intends to conduct a thorough analysis of impacts to determine whether the risk is discountable or insignificant with transit of multiple ships during the programmatic consultation. The remaining species identified in Table 1 occur at the Bremerton, Washington origination port or along the proposed tow routes between Bremerton and Brownsville.

Potential Effects to Sea Turtles

Green, hawksbill, Kemp's ridley, leatherback, and loggerhead sea turtles occur within the Brownsville vicinity (http://www.nmfs.noaa.gov/pr/species/esa/listed.html), but to our knowledge, these species are not known to occur in the heavily industrialized end of the Port of Brownsville. We expect that the leatherback sea turtle is not likely to be adversely affected, as it does not nest in the area and is not frequently observed close to shore in the Brownsville area (B. Higgins, NMFS Southeast Fisheries Science Center, pers. comm. to J. Carduner, NMFS Office of Protected Resources, August 14, 2014). Potential direct effects to sea turtles by the introduction of invasive species that may be attached to the hull of the ex-*Independence* may include parasitism by invasive species. Biofouling of turtle shells can also increase drag, resulting in increased energy expenditure of sea turtles during movement. However, turtle shells are often fouled by organisms and the occasional shedding of scutes lessens the impact of this fouling. The probability of direct effects from parasitism are very low (B. Stacy, NMFS Office of Protected Resources, pers. comm. to J. Carduner, NMFS Office of Protected Resources, August 18, 2014); therefore, we have determined the likelihood of take of sea turtles from parasitism is so low as to be discountable and thus, not likely to adversely affect sea turtles.

The introduction of invasive species that may foul the hull of the vessel also has the potential to lead to indirect effects to sea turtles in the form of changes to benthic habitat and/or changes to invertebrate prey. These effects could result from invasive species preying upon or outcompeting organisms that may be critical to a sea turtle's benthic habitat or food chain. The alteration of a sea turtle's habitat or food chain could lead to behavioral disturbance in the form of requiring a turtle to travel farther or could cause fitness consequences if a turtle is unable to feed. The hawksbill, loggerhead, and Kemp's ridley sea turtles are generalist feeders, and it is unlikely additional biofouling species would impact the ability of these species to locate food even if they were to co-occur with invasive species. Green sea turtles are specialist feeders and only eat seagrasses and algae as adults. As such, green sea turtles would be more susceptible to biofouling invaders capable of impacting the food web's seagrasses and algae populations. However, to our knowledge, no sea turtles, including the green sea turtle, utilize the industrialized portion of the Port of Brownsville as habitat. The Port of Brownsville is relatively isolated, occurring more than 13 miles inland in a channel that mostly lacks suitable substrate for biofouling spread and invasion. There is limited evidence to suggest biofouling organisms are capable of spreading from the Port of Brownsville to the Gulf of Mexico where sea turtles are more likely to occur. Therefore, effects to sea turtles from any potential biological invasions occurring in this area are not reasonably expected to occur and are discountable. Based on the reasons listed above, NMFS believes that sea turtles are not likely to be adversely affected by invasive species transfers resulting from the proposed action.

Potential Effects to Invertebrates

Biofouling organisms that dislodge while over coral reef ecosystems have the potential to land on hard substrates amenable to their introduction and establishment. It is possible that some biofouling organisms will dislodge from the towed vessels in areas containing ESA-listed corals. However, the slow speed of towed vessels and the fact that most loosely-attached organisms will likely detatch early during the transit (i.e., near the coast of Washington state where no ESA-listed corals occur) or when the vessel first reaches its maximum speed is expected to minimize the quantity of organisms dislodged over coral reef ecosystems with ESA-listed coral species. To establish, biofouling organisms would need to dislodge from towed vessels, land on hard substrate, be tolerant of the physiochemical properties of the habitat, be abundant enough and in high enough density to reproduce, and successfully compete for resources with already established organisms. Further, the establishment of biofouling organisms on reef ecosystems does not necessarily indicate that negative effects to ESA-listed species will occur. For the reasons outlined above, NMFS believes that the limited scale of the action—one-time transit of one ship through the area—presents a low risk (discountable) of adverse effects. However, for the programmatic opinion, NMFS intends to conduct a thorough analysis of impacts to determine whether the risk is discountable with transit of multiple ships. Based on the reasons listed above, NMFS believes that ESA-listed invertebrates are not likely to be adversely affected by invasive species transfers resulting from the proposed action.

Potential Effects to Critical Habitat

The proposed action may occur within ESA-listed critical habitats that have been designated for: the Northwest Atlantic DPS of loggerhead sea turtles (*Sargassum* habitat in the Gulf of Mexico); leatherback sea turtles (off the coasts of Washington, Oregon and California); Chinook salmon (Puget Sound, Washington), chum salmon (Puget Sound), Puget Sound/Georgia Basin rockfish species (Puget Sound), green sturgeon (Puget Sound and U.S. west coast) and Southern resident killer whales (Puget Sound).

No designated critical habitat exists in the Brownsville, Texas area, so only potential impacts to critical habitat along the tow routes were evaluated. We examined the essential features for all ESA-listed critical habitats occurring within the action area to determine if the proposed action is likely to affect those features. It is possible for towed vessels to come into contact with floating *Sargassum* communities while in loggerhead critical habitat. One of the essential features of this habitat type is available prey for young loggerheads, including but not limited to, plants, cyanobacteria, and animals endemic to the *Sargassum* community such as hydroids and copepods. If *Sargassum* communities come into contact with biofouling organisms during vessel tows, some of these fouling organisms may be dislodged and temporarily join these floating communities. However, it is unlikely these organisms could survive and reproduce in this environment because *Sargassum* communities lack the hard substrate necessary for fouling organism settlement. Additionally, young loggerheads are known to be generalist, opportunistic omnivores (Witherington et al. 2012). Any fouling organisms temporarily residing within a *Sargassum* community would most likely serve as an additional food source. All other essential features of remaining designated critical habitats that occur along tow routes are not likely to be affected because the proposed action would involve only the temporary movement of one vessel through those critical habitats, passing through only a small portion of designated critical habitat, or the designated critical habitat is within the Puget Sound area where the biofouling organisms associated with towed vessels from Bremerton, Washington are already likely to occur.

For the reasons outlined above, we believe that the likelihood of the proposed action altering the essential features of Northwest Atlantic DPS loggerhead turtle, leatherback turtle, chinook salmon, chum salmon, steelhead, green sturgeon, Puget Sound/Georgia Basin rockfish, or Southern resident killer whale critical habitats is so low as to be discountable. As a result, the essential features of the critical habitat are not likely to be destroyed or adversely affected by the proposed action.

Conclusion

After review of the proposed action including mitigation and minimization measures, using substantive requirements of ESA section 7, and using the best scientific and commercially available data, NMFS determined the likelihood of the U.S. Navy's proposed action to tow and dismantle the inactive U.S. Navy vessel ex-*Independence* is not likely to adversely affect ESA-listed marine mammals (blue whale, fin whale, humpback whale, North Pacific right whale,

southern right whale, sei whale, Southern Resident DPS of killer whales), sea turtles (East Pacific, North Atlantic, South Atlantic DPSs of green turtle; hawksbill turtle; leatherback turtle; Northwest Atlantic Ocean, South Atlantic Ocean DPSs of loggerhead turtles; olive ridley turtle, and Kemp's ridley turtle), fish (Puget Sound ESU chinook salmon, Hood Canal Summer-run chum salmon, Southern DPS eulachon, Southern DPS green sturgeon, Puget Sound/Georgia Basin canary rockfish, Puget Sound/Georgia Basin yelloweye rockfish, Puget Sound/Georgia Basin bocaccio. Puget Sound DPS steelhead), or invertebrates (Staghorn or elkhorn coral, *Dendrogyra cylindrus*, *Mycetophylia ferox*, *Orbicella annularis*, *Orbicella faveolata*, *Orbicella franksi*). NMFS also determined that the proposed action would not destroy or adversely modify designated critical habitat.

Reinitiation of Consultation

As provided in 50 CFR 402.16, the U.S. Navy must reinitiate ESA consultation if new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered, the action is modified in a manner causing effects to listed species or designated critical habitat not previously considered, or a new species is listed or critical habitat designated that may be affected by the action. The incidental take of listed species associated with this action, including behavioral harassment, injury, or mortality, is not anticipated nor exempted; thus, if take occurs as a result of the action, the U.S. Navy must immediately contact the NMFS Office of Protected Resources, Interagency Cooperation Division to develop and implement mitigation to avoid additional take or initiate formal consultation in accordance with ESA section 7(a)(2).

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and "adverse effect" means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

The project area includes habitat which has been designated as EFH for various life-history stages for species of groundfishes, salmon, and coastal pelagics managed by the Pacific Fishery Management Council.

NMFS has determined the proposed action would adversely affect EFH, specifically cleaning the biofouling community from the hull, as follows:

1. Water quality impacts from antifouling paint. According to the information provided by the U.S. Navy, levels of dissolved copper from antifouling paints are expected to increase in the immediate area surrounding the ship. Dissolved copper, in concentrations at, or slightly above, ambient conditions has been shown to impact sensory organs. While the U.S. Navy anticipates that this will be localized and temporary, there is little information to estimate the amount of dissolved copper that would be released because it depends on: 1) how much of the paint is removed in the process and the level of copper in the paint that is removed, and the bioavailability of the copper in the paint particulates that are expected to sink to the bottom. In addition to copper, antifouling paints can contain mercury, tributyltin, and polychlorinated biphenyls, all of which are toxic to marine organisms. Because the cleaning could take 60 to 90 days, local levels of these toxicants can remain high for an extended period of time, increasing the risk of exposure.

2. Water quality impacts from biofouling release. When the biofouling community is removed from the ship hull, it will increase turbidity, total suspended solids, and decrease water clarity. In addition, a presumably large, but unknown, quantity of debris from the fouling community will settle to the bottom, where it will decay. Depending on the volume, this decay may reduce the level of dissolved oxygen in the immediate vicinity, and perhaps over a larger area. The rate at which this organic matter will decay is unknown, but if the quantity is sufficiently large, dissolved oxygen levels could remain low for an extended period of time.

3. Substrate impacts from biofouling release. The presumably large, but unknown, quantity of debris that will be generated by this action will be spread out over a relatively large area. The addition of large quantities of this debris (shell hash) may alter the characteristics of the sediments, adversely affecting the species that use this area.

EFH Conservation Recommendations

NMFS determined that the following conservation recommendations are necessary to avoid, mitigate, or offset the impact of the proposed action on EFH:

1. Isolate the area around the ship with a silt curtain to contain suspended solids and minimize the debris field created by the proposed action. Doing so will 1) minimize the likelihood that MSA-managed species will be exposed to the highest levels of contaminants from the antifouling paint (adverse effect #1) and will minimize the debris field created by the action, thereby reducing the area that is impacted (adverse effect #3).

2. As soon as possible after cleaning, remove the accumulated debris using a dredge or other suitable method. This recommendation is intended to address EFH adverse effects #2 and #3 above and is based, in part, on the uncertainty surrounding the volume and composition of the fouling community.

a. Prior to cleaning up the debris, NMFS recommends that the U.S. Navy determine the quantity of debris and how it will affect water quality and the substrate. If the volume is insufficient to adversely affect EFH, NMFS will withdraw this recommendation on receipt of information to support that conclusion.

3. Monitor water quality in the immediate vicinity of the ship as well as at more distant locations before, during, and after cleaning. Monitoring should include the toxic constituents of the antifouling paint used on the ex-INDEPENDENCE. Doing so will provide information for future ship tow operations as well as the effectiveness of the silt curtain and dredging operations. Should the USN monitor the effects of this action on water quality, they should send a report to NMFS headquarters to inform the ongoing discussions to develop a programmatic EFH consultation for this activity.

Within 30 days after receiving these recommendations, you must provide NMFS with a detailed written response (50 CFR 600.920(k)(1)). The number of conservation recommendations accepted should be clearly identified in that response. If your response is inconsistent with the EFH conservation recommendations, you must explain why the recommendations will not be followed, including the scientific justification for any disagreements over the anticipated effects of the action and the measures needed to avoid, minimize, mitigate, or offset such effects.

The U.S. Navy must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for NMFS' EFH conservation recommendations (50 CFR 600. 920(l)).

Please direct questions regarding this letter to Cathryn Tortorici, NMFS Office of Protected Resources, at (301) 427-8495 or cathy.tortorici@noaa.gov.

Sincerely,

Donna S. Wieting
Director, Office of Protected Resources

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